ABSTRACT

A rotary engine having a housing and a first and second intersecting cavity disposed therein is described. A rotor is mounted for rotation in the first cavity, and the housing and the rotor define an annular chamber between the rotor and the walls of the first cavity. The rotor includes a piston extending from the rotor into the annular chamber. A first valve, mounted for rotation in the second cavity includes a recess sized to receive the piston during a rotation of the rotor. At least one passage extends between the second cavity and the annular chamber. The passage includes an open portion formed in the cylindrical wall surface of the second cavity and an enclosed portion extending through the housing and connecting the open portion of the passage to the annular chamber at a point downstream of the second cavity with respect to the direction of rotation of the valve. The open portion of the passage extends for at least 20 degrees around the circumference of the wall surface of the second cavity.